

and includes a spring arrangement for urging the shut off valve member towards its closed position.

42. The shut off valve as claimed in claim 30, wherein the shut off valve member is not pressure balanced.

43. The shut off valve as claimed in claim 42, wherein the first effective surface area of the first associated surface is greater than the second effective surface area of the second associated surface.

44. A fuel injector for use in an internal combustion engine, the fuel injector including an injection nozzle having a valve needle and a valve needle seating, said valve needle being movable between an open position in which it is lifted away from the valve needle seating and a closed position in which is engaged with the valve needle seating, a fuel supply passage and a shut off valve that is actuatable between an open position in which high pressure fuel flows through the fuel supply passage to the injection nozzle and a closed position in which high pressure fuel cannot flow through the fuel supply passage to the injection nozzle, and whereby the shut off valve is actuatable between its open and closed position with the valve needle is in its open position so as to provide a pulsed injection of fuel to the injector.

45. A fuel injection system for supplying pressurised fuel to a fuel injector, said fuel injection system comprising:

an accumulator volume for supplying fuel at a first injectable pressure level to the fuel injector through a fuel supply passage;

pump means for increasing the pressure of fuel supplied to the injector to a second injectable pressure level;

valve means operable between a first position in which fuel at the first injectable pressure level is supplied to

the injector and a second position in which communication between the injector and the accumulator volume is broken so as to permit fuel at the second injectable pressure to be supplied to the injector; and

control valve means including a shut off control valve, including a shut off valve member, for controlling the supply of fuel between the pump means and the injector, and arranged to enable control of injection timing at the first and/or second injectable pressure level.

46. A fuel injection system for supplying pressurised fuel to a fuel injector, the fuel injection system comprising:

an accumulator volume for supplying fuel at a first injectable pressure level to the fuel injector through a fuel supply passage;

a pump arrangement for increasing the pressure of fuel supplied to the injector to a second injectable pressure level, and

a three position valve operable between a first position in which fuel at the first injectable pressure level is supplied to the injector, a second position in which communication between the injector and the accumulator volume is broken so as to permit fuel at the second injectable pressure to be supplied to the injector and a third position in which the pump arrangement communicates with a low pressure drain, thereby to permit spill-end of injection.

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